

§ 98.177

specified in § 98.256(e) of subpart Y (Petroleum Refineries) of this part.

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 66464, Oct. 28, 2010]

§ 98.177 Records that must be retained.

In addition to the records required by § 98.3(g), you must retain the records specified in paragraphs (a) through (e) of this section, as applicable. Facilities that use CEMS to measure emissions must also retain records of the verification data required for the Tier 4 Calculating Methodology in § 98.36(e).

(a) Records of all analyses and calculations conducted, including all information reported as required under § 98.176.

(b) When the carbon mass balance method is used to estimate emissions for a process, the monthly mass of each process input and output that are used to determine the annual mass.

(c) Production capacity (in metric tons per year) for the production of taconite pellets, coke, sinter, iron, and raw steel.

(d) Annual operating hours for each taconite indurating furnace, basic oxygen furnace, non-recovery coke oven battery, sinter process, electric arc furnace, decarburization vessel, and direct reduction furnace.

(e) Facilities must keep records that include a detailed explanation of how company records or measurements are used to determine all sources of carbon input and output and the metric tons of coal charged to the coke ovens (e.g., weigh belts, a combination of measuring volume and bulk density). You also must document the procedures used to ensure the accuracy of the measurements of fuel usage including, but not limited to, calibration of weighing equipment, fuel flow meters, coal usage including, but not limited to, calibration of weighing equipment and other measurement devices. The estimated accuracy of measurements made with these devices must also be recorded, and the technical basis for these estimates must be provided.

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§ 98.178 Definitions.

All terms used in this subpart have the same meaning given in the Clean Air Act and subpart A of this part.

Subpart R—Lead Production

§ 98.180 Definition of the source category.

The lead production source category consists of primary lead smelters and secondary lead smelters. A primary lead smelter is a facility engaged in the production of lead metal from lead sulfide ore concentrates through the use of pyrometallurgical techniques. A secondary lead smelter is a facility at which lead-bearing scrap materials (including but not limited to, lead-acid batteries) are recycled by smelting into elemental lead or lead alloys.

§ 98.181 Reporting threshold.

You must report GHG emissions under this subpart if your facility contains a lead production process and the facility meets the requirements of either § 98.2(a)(1) or (a)(2).

§ 98.182 GHGs to report.

You must report:

(a) Process CO₂ emissions from each smelting furnace used for lead production.

(b) CO₂ combustion emissions from each smelting furnace used for lead production.

(c) CH₄ and N₂O combustion emissions from each smelting furnace used for lead production. You must calculate and report these emissions under subpart C of this part (General Stationary Fuel Combustion Sources) by following the requirements of subpart C.

(d) CO₂, CH₄, and N₂O emissions from each stationary combustion unit other than smelting furnaces used for lead production. You must report these emissions under subpart C of this part (General Stationary Fuel Combustion Sources) by following the requirements of subpart C.

§ 98.183 Calculating GHG emissions.

You must calculate and report the annual process CO₂ emissions from

each smelting furnace using the procedure in paragraphs (a) and (b) of this section.

(a) For each smelting furnace that meets the conditions specified in § 98.33(b)(4)(ii) or (b)(4)(iii), you must calculate and report combined process and combustion CO₂ emissions by operating and maintaining a CEMS to measure CO₂ emissions according to the Tier 4 Calculation Methodology specified in § 98.33(a)(4) and all associated requirements for Tier 4 in subpart C of this part (General Stationary Fuel Combustion Sources).

(b) For each smelting furnace that is not subject to the requirements in paragraph (a) of this section, calculate and report the process and combustion CO₂ emissions from the smelting furnace by using the procedure in either paragraph (b)(1) or (b)(2) of this section.

(1) Calculate and report under this subpart the combined process and combustion CO₂ emissions by operating and maintaining a CEMS to measure CO₂

emissions according to the Tier 4 Calculation Methodology specified in § 98.33(a)(4) and all associated requirements for Tier 4 in subpart C of this part (General Stationary Fuel Combustion Sources).

(2) Calculate and report process and combustion CO₂ emissions separately using the procedures specified in paragraphs (b)(2)(i) through (b)(2)(iii) of this section.

(i) For each smelting furnace, determine the annual mass of carbon in each carbon-containing material, other than fuel, that is fed, charged, or otherwise introduced into the smelting furnace and estimate annual process CO₂ emissions using Equation R-1 of this section. Carbon-containing materials include carbonaceous reducing agents. If you document that a specific material contributes less than 1 percent of the total carbon into the process, you do not have to include the material in your calculation using Equation R-1 of this section.

$$E_{CO_2} = \frac{44}{12} \times \frac{2000}{2205} \times \left[(Ore \times C_{Ore}) + (Scrap \times C_{Scrap}) + (Flux \times C_{Flux}) + (Carbon \times C_{Carbon}) + (Other \times C_{Other}) \right] \quad (\text{Eq. R-1})$$

Where:

E_{CO_2} = Annual process CO₂ emissions from an individual smelting furnace (metric tons).

44/12 = Ratio of molecular weights, CO₂ to carbon.

2000/2205 = Conversion factor to convert tons to metric tons.

Ore = Annual mass of lead ore charged to the smelting furnace (tons).

C_{Ore} = Carbon content of the lead ore, from the carbon analysis results (percent by weight, expressed as a decimal fraction).

Scrap = Annual mass of lead scrap charged to the smelting furnace (tons).

C_{Scrap} = Carbon content of the lead scrap, from the carbon analysis (percent by weight, expressed as a decimal fraction).

Flux = Annual mass of flux materials (e.g., limestone, dolomite) charged to the smelting furnace (tons).

C_{Flux} = Carbon content of the flux materials, from the carbon analysis (percent by weight, expressed as a decimal fraction).

Carbon = Annual mass of carbonaceous materials (e.g., coal, coke) charged to the smelting furnace (tons).

C_{Carbon} = Carbon content of the carbonaceous materials, from the carbon analysis (per-

cent by weight, expressed as a decimal fraction).

Other = Annual mass of any other material containing carbon, other than fuel, fed, charged, or otherwise introduced into the smelting furnace (tons).

C_{Other} = Carbon content of the other material from the carbon analysis results (percent by weight, expressed as a decimal fraction).

(ii) Determine the combined annual process CO₂ emissions from the smelting furnaces at your facility using Equation R-2 of this section.

$$CO_2 = \sum_{k=1}^k E_{CO_2k} \quad (\text{Eq. R-2})$$

Where:

CO_2 = Annual process CO₂ emissions from smelting furnaces at facility used for lead production (metric tons).

E_{CO_2k} = Annual process CO₂ emissions from smelting furnace k calculated using Equation R-1 of this section (metric tons/year).

k = Total number of smelting furnaces at facility used for lead production.

(iii) Calculate and report under subpart C of this part (General Stationary Fuel Combustion Sources) the combustion CO₂ emissions from the smelting furnaces according to the applicable requirements in subpart C.

§ 98.184 Monitoring and QA/QC requirements.

If you determine process CO₂ emissions using the carbon mass balance procedure in § 98.183(b)(2)(i) and (b)(2)(ii), you must meet the requirements specified in paragraphs (a) and (b) of this section.

(a) Determine the annual mass for each material used for the calculations of annual process CO₂ emissions using Equation R-1 of this subpart by summing the monthly mass for the material determined for each month of the calendar year. The monthly mass may be determined using plant instruments used for accounting purposes, including either direct measurement of the quantity of the material placed in the unit or by calculations using process operating information.

(b) For each material identified in paragraph (a) of this section, you must determine the average carbon content of the material consumed or used in the calendar year using the methods specified in either paragraph (b)(1) or (b)(2) of this section. If you document that a specific process input or output contributes less than one percent of the total mass of carbon into or out of the process, you do not have to determine the monthly mass or annual carbon content of that input or output.

(1) Information provided by your material supplier.

(2) Collecting and analyzing at least three representative samples of the material each year. The carbon content of the material must be analyzed at least annually using the methods (and their QA/QC procedures) specified in paragraphs (b)(2)(i) through (b)(2)(iii) of this section, as applicable.

(i) ASTM E1941-04, Standard Test Method for Determination of Carbon in Refractory and Reactive Metals and Their Alloys (incorporated by reference, see § 98.7) for analysis of metal ore and alloy product.

(ii) ASTM D5373-08 Standard Test Methods for Instrumental Determina-

tion of Carbon, Hydrogen, and Nitrogen in Laboratory Samples of Coal (incorporated by reference, see § 98.7), for analysis of carbonaceous reducing agents and carbon electrodes.

(iii) ASTM C25-06, Standard Test Methods for Chemical Analysis of Limestone, Quicklime, and Hydrated Lime (incorporated by reference, see § 98.7) for analysis of flux materials such as limestone or dolomite.

§ 98.185 Procedures for estimating missing data.

A complete record of all measured parameters used in the GHG emissions calculations in § 98.183 is required. Therefore, whenever a quality-assured value of a required parameter is unavailable, a substitute data value for the missing parameter shall be used in the calculations as specified in the paragraphs (a) and (b) of this section. You must document and keep records of the procedures used for all such estimates.

(a) For each missing data for the carbon content for the smelting furnaces at your facility that estimate annual process CO₂ emissions using the carbon mass balance procedure in § 98.183(b)(2)(i) and (ii), 100 percent data availability is required. You must repeat the test for average carbon contents of inputs according to the procedures in § 98.184(b) if data are missing.

(b) For missing records of the monthly mass of carbon-containing materials, the substitute data value must be based the best available estimate of the mass of the material from all available process data or data used for accounting purposes (such as purchase records).

§ 98.186 Data reporting procedures.

In addition to the information required by § 98.3(c), each annual report must contain the information specified in paragraphs (a) or (b) of this section, as applicable.

(a) If a CEMS is used to measure CO₂ emissions according to the requirements in § 98.183(a) or (b)(1), then you must report under this subpart the relevant information required by § 98.36 and the information specified in paragraphs (a)(1) through (a)(4) of this section.